

ABSTRACT OF THE DISCLOSURE

Provided herein is a method of depositing a low resistivity tungsten film onto a wafer comprising the steps of introducing a metalorganic tungsten-containing compound into a deposition chamber of a CVD apparatus; maintaining the deposition chamber at a pressure and the wafer at a temperature suitable for the high pressure chemical vapor deposition of the tungsten film onto the wafer; thermally decomposing the tungsten-containing compound in the deposition chamber; and vapor-depositing the tungsten film onto the wafer thereby forming a low-resistivity tungsten film. Specifically provided is a method of depositing a low-resistivity tungsten film by high pressure MOCVD using tungsten hexacarbonyl as the precursor. Also provided is a low-resistivity tungsten film.